STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name:PLEASANTINE *Agreement #:30-083201*

2. Name of applicant: Washington Department of Natural Resources

3. Address and phone number of applicant and contact person:

   Olympic Region
   411 Tillicum Lane
   Forks, WA 98331

   Contact Person: Gary McLaughlin
   Telephone: (360) 374-6131

4. Date checklist prepared: 10/30/2008

5. Agency requesting checklist: Washington State Department of Natural Resources

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:05/27/2009*
   b. *Planned contract end date (but may be extended):11/30/2010*
   c. *Phasing:N/A*

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. *Site preparation:* Landing piles may be burned or chipped and hauled upon completion of harvest.

   b. Regeneration Method: Sale area will be hand planted the first season after harvest.

   c. *Vegetation Management*: Needs will be assessed 5 to 7 years after harvest.

   d. *Thinning:* Needs will be assessed 10 to 12 years after harvest.

   Roads: This proposal includes new construction, reconstruction, road maintenance and abandonment. Road maintenance, which will include rocking, grading, ditch cleanout, and repair or replacement of culverts, will occur as necessary on existing roads. New roads, and roads with pre-haul maintenance, will be used to access the area for future management activities.

   Rock Pits and/or Sale: Rock will be removed from Microsite Pit located in Section 36 Township 30 North Range 06 West of W.M. or commercial sources.

Other: Future forest management activities are anticipated to continue within the WAU's and adjacent to the current proposal. Potential activities may include, but are not limited to, firewood salvage, hardwood slashing, maple stump treatment, pre-commercial thinning, commercial thinning and regeneration harvest. These future activities are connected with this proposal insofar as they will occur in close proximity to the sale area, and that the newly constructed roads and roads with pre-haul maintenance may be used to perform the required work. Landing debris may be burned upon completion of logging. All future activities will be consistent with the State's Habitat Conservation Plan (HCP), and applicable policy and planning documents.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒*303 (d) – listed water body in WAU: Port Angeles WAU:* ☒*temp* ☐*sediment* ☐*completed TMDL (total maximum daily load):*
Note: In the Port Angeles WAU 303(d) waters were identified from the SEPA maps. No waters draining from this proposal are tributary to 2004 303(d) waters listed at the DOE website.
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* dated 12/08/2008
☐*Wildlife report:*
☒*Geotechnical report:* Landslide Risk Assessment – Pleasantine Timber Sale, dated September 15, 2008
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* for Microsite Pit
☒*Other:* Soil Survey, Habitat Conservation Plan (HCP), dated September 1997; G.I.S. Report for SEPA Evaluation on Morse Creek and Port Angeles Watershed Administrative Units; Policy for Sustainable Forests (July 2006); Special Concerns and TRAX.
All documents may be obtained at the Olympic Region Office during the SEPA comment period.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. No.

10. List any government approvals or permits that will be needed for your proposal, if known.

☐*HPA* ☐*Burning permit* ☐*Shoreline permit* ☒*Incidental take permit* ☒*FPA #* _____ ☒*Other:* Board of Natural Resources approval.

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. Complete proposal description:

Proposal area (acres): 161.0

Sale area/net area (includes existing road and bare area acres): 129.0

The Pleasantine Timber Sale is composed of three variable retention harvest units and a road right-of-way thru non-merchantable timber. Unit 1 is 26.9 net acres, Unit 2 is 32.7 acres, and Unit 3 is 66.7 net acres. Subtracting 1.4 acres of existing roads and 0.5 acre of bare area, the total harvestable acreage is 126.3.

The harvest will generate approximately 3.016 million board feet of timber.

This proposal involves the harvest of timber, road construction, pre-haul maintenance, and road abandonment.

b. Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.

Pre-harvest Stand Description: This timber sale is in the *Tsuga heterophylla* plant community. Unit 1 is predominately a 60-year old stand of red alder with patches of Douglas fir. Unit 2 consists of a 90-year old homogenous second growth stand of Douglas fir and grand fir with scattered red alder and big leaf maple. Unit 3 is a 105-year old second growth stand similar in composition to Unit 2 but with numerous scattered remnant Douglas fir and diameter classes. The underbrush is dominated by salal, sword fern, Oregon grape, and salmonberry.

Type of Harvest:
This sale consists of a variable retention harvest with scattered leave trees.
Unit 1: Variable retention cut with 224 scattered leave trees. 70% cable only, 30% tracked skidder, shovel or cable.
Unit 2: Variable retention cut with 268 scattered leave trees. 100% tracked skidder, shovel or cable.
Unit 3: Variable retention cut with 582 scattered leave trees. 70% tracked skidder, shovel or cable, 10% shovel and/or cable only, 20% cable only.

The following restrictions will apply:
Cutting and Yarding:
All units: no ground yarding from November 1 - April 30 without written permission from the contract administrator. Only hand falling will be allowed during the restriction period.

Overall Objectives:
The timber sale will provide revenue to the trust beneficiaries while protecting ecological assets including water quality, slope stability, old forest values and maintenance and development of wildlife diversity through retention of structural legacies. Water, soils, and unique forest structure will be protected by providing streams and wetlands with protective buffers and limiting ground harvest equipment during wet weather conditions. Improvement of a system that will most efficiently serve management needs while minimizing long-term road impacts. Existing roads in need of maintenance will be improved. Objectives also include reforesting all units to a well-stocked condition.

c. Road activity summary. See also forest practice application (FPA) for maps and more details.

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		4213	1.45*	0
Reconstruction		1680		0

Abandonment**		10,003	3.45	0
Bridge Install/Replace	0			0
Culvert Install/Replace (fish)	0			0
Culvert Install/Replace (no fish)	3			

37,565 feet of prehaul maintenance
Ditch relief cross drains: install/replace 22 and clean inlet/outlets of 49
*with 15 foot subgrade
**Abandonment consists of culvert removal or flow diversion, installation of tank traps, non-driveable waterbars, ripping road surface to 18 inches, and placing logging slash in road prism at completion of harvest operations.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

T29N R5W S6
T30N R5W S31
T30N R6W S26

b. Distance and direction from nearest town (include road names):

All the units are located on the lower slopes of Mt. Pleasant just south of Port Angeles. Unit 1 is located 3.0 miles south U.S. Route 101 in Port Angeles on Monroe Road, Baker Farm Road, and the PA-F-1000W. Units 2 and 3 are located 4.4 miles south of U.S. Route 101 in Port Angeles on Mt. Pleasant Road and the PA-F-1000E.

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")

WAU Name	WAU Acres	Proposal Acres
MORSE CREEK	39,434.9	108
PORT ANGELES	66,979.8	53

Note: WAU acres were auto-populated from DNR's Planning and Tracking system and excludes water acres.

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)

Unit 1 is located within the Port Angeles WAU. The DNR manages approximately 5,189 acres of forestland within the WAU, which equates to 20 percent of the WAU's dry land acres. Approximately 501 acres of these lands have been harvested using the variable retention method within the past five years. About 13 percent of the WAU is federally managed and 68 percent is managed by private and other public land management entities.

Units 2 and 3 are located within the Morse Creek WAU. The DNR manages approximately 1,216 acres of forestland within the WAU, which equates to 3 percent of the WAU's dry land acres. Approximately 67 acres of these lands have been harvested using the variable retention method within the past five years. Seventy-eight percent of the WAU is federally managed and 18 percent is managed by private and other public land management entities.

Known future State activities not associated with this proposal include other variable retention harvests and RMAPS work. Within the Port Angeles WAU there are 95 acres of variable retention harvest and 67 acres of commercial thinning planned in the next 2 years. There are 159 acres of additional harvest scheduled within the Morse Creek WAU at this time.

Future Department of Natural Resources' (DNR) managed stands in these WAUs will be scheduled for variable retention, commercial thinning and partial cut harvests as they meet the department's financial and environmental policies and mandates. All current and future DNR activities will be conducted according to the State's Habitat Conservation Plan (HCP), Policy for Sustainable Forestry and State Forest Practices rules, and thus will avoid adverse cumulative effects.

The following measures have been taken while evaluating this proposal, and will be taken when evaluating future proposals, to reduce the risk of environmental impacts:
- Assessments to evaluate the potential use of the proposal area by threatened and endangered species, and to ensure their protection.
- Verification of compliance with DNR's Habitat Conservation Plan (HCP) agreements for spotted owls and marbled murrelets. For a detailed description of marbled murrelet habitat mitigation see B.5.d. below.
- Preservation of leave trees scattered throughout the units to provide structure and protection for many wildlife species (see B.4.b.2.) and to minimize viewshed disruption for nearby residents.
- Protection and preservation of culturally unique features.
- Measures to analyze, design, construct, and maintain the road system in order to minimize the amount of road construction needed and to ensure the quality of existing and newly constructed roads. These measures will minimize potential adverse effects on the environment by reducing the potential for off site movement of sediments.
- Analysis of G.I.S landscape reports to evaluate the location of the proposal relative to the rain-on-snow (ROS) zone mapping units and the Weighted Old Growth Habitat Index (WOGHI).
- Application of timing restriction(s) to the use of ground yarding equipment in sensitive areas in order to prevent impacts to water quality.
- Assessment of potentially unstable slopes and landforms in association with the proposal to insure that proposed management activities will not significantly increase the risk of mass wasting in the general area (B.1.d.1-5).
- Preservation of riparian management zones (RMZ's) on all associated Type 3 and 4 streams to protect the spawning habitat and rearing environment of anadromous fish. Type 5 streams will continue to be protected by 30-foot no-equipment zones. For a detailed description of stream mitigation see B.3.a.1.b. and B.3.a.1.c. below.

Over the past 5 to 10 years, the private industrial forestlands scattered within the WAU's have reached rotation age and are currently being harvested on an estimated rotation cycle of 40-60 years in accordance with forest practice laws. Some of these industrial forestlands will likely be converted to industrial and private landowner development. Future activities planned by small private forestland owners within the WAU are largely unknown. Federal timberlands have seen very little final harvest activities since the early 1980's and this is not anticipated to change for the foreseeable future.

The following tables titled, *FOREST PRACTICE APPROVED APPLICATIONS FOR HARVEST ACTIVITIES*, were taken from the Harvest and Forest Practices Report portion of the WAU Status Reports for:

Port Angeles WAU

Harvest Type	Acres on DNR Land	Acres on Non-DNR Land	Acres on All Lands
Evenage	561	638	1199
Unevenage	2	526	528
Salvage	29	14	43

Morse Creek WAU

Harvest Type	Acres on DNR Land	Acres on Non-DNR Land	Acres on All Lands
Evenage	41	237	278
Unevenage	0	96	96
Salvage	0	7	7

NOTE: This information is derived from activity locations collected by varying methods ranging from hand drawn maps to precise GPS collection. No verification of map accuracy or activity completion is conducted. Totals may not be the sum of all harvest types due to overlapping activities. The same land may be counted more than once if, in the past seven years, more than one forest practice application has been approved for different harvests (salvage and evenage for example). All acreages are approximate. Rounding to the nearest 10 or even to the nearest 50 acres may be appropriate. Totals may not be the sum of all harvest types due to overlapping activities.

Data Source & Description: DNR Forest Practices Application Review System (FPARS) data. Table shows the last seven years of proposed harvest areas, some of these areas may not have actually been harvested. Data are continuously updated.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☒Hilly, ☐Steep Slopes, ☐Mountainous, ☒Other:

1) *General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).*

The Port Angeles WAU consists of 26,463 land acres. Elevation ranges from 0 to 6369 feet with a mean elevation of 1029 feet. Average precipitation for the WAU is 28 inches, with rainfall increasing from north to south in the WAU. The landform is generally hilly with gentle to moderately steep slopes. Steeper slopes are found in the south 1/3 of the WAU, especially on National Park lands. The dominant forest type is Douglas fir with associated western red cedar, western hemlock, grand fir, red alder, and big leaf maple. The managed forestlands are primarily regenerated with Douglas fir and red alder.

The Morse Creek WAU consists of 36,735 land acres. Elevation ranges from 0 to 6757 feet with a mean elevation of 3098 feet. Average precipitation for the WAU is 48 inches, with rainfall increasing from north to south. The landform is hilly with gentle to moderately steep slopes. The steeper slopes are found in the southern portion of the WAU on Olympic National Park land. The dominant forest type is Douglas fir with associated western red cedar, western hemlock, grand fir, red alder, and big leaf maple. The managed forestlands are primarily regenerated with Douglas fir and red alder.

2) *Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).*

The proposal is located on the lower slopes of Mt. Pleasant. Terrain is hilly with mostly 0 to 45 percent slopes with scattered steeper slopes up to 80 percent in Unit 1 and 60 percent in Unit 3.

b. What is the steepest slope on the site (approximate percent slope)?

Maximum slopes are 80 percent in Unit 1, 45 percent in Unit 2, and 60 percent in Unit 3.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey*

data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
7234	LOAM	20-55	63	MEDIUM	MEDIUM
5260	V.GRAVELLY LOAMY SAND	30-70	48	MEDIUM	HIGH
1958	GRAVELLY SANDY LOAM	0-15	35	INSIGNIFIC'T	LOW
8047	V.GRAVELLY SANDY LOAM	30-65	14	LOW	HIGH
1959	GRAVELLY SANDY LOAM	15-35	2	LOW	LOW
7232	LOAM	0-20	0	INSIGNIFIC'T	LOW

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

There are unstable slopes located west of Unit 1 along Ennis Creek. These unstable slopes include deep-seated landslides, incised channels, and inner gorges.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

Natural slope failures occur within incised draws where streams undercut the toe of the slope, causing some failures. Slope failures have also occur on steep slopes underlain by unstable, glacial soils during periods of extreme saturation. The inner gorge of Ennis Creek shows past shallow instability with shallow landslides.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

Slope failures exist where timber harvest and road construction have occurred on extremely steep and unstable slopes. Road failures are primarily associated with older constructed sidecast roads. No recent activity has been observed. There is also a deep-seated slide located west of Unit 1 on a tributary stream to Ennis Creek.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

Both deep-seated and shallow landslides are common along steep, channel-adjacent slopes. Proposed timber harvesting and road construction activities are limited to gently sloping, stable terrain. However, there are steep, potentially unstable slopes adjacent to, but outside, the project area.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

A geologic assessment was completed by a State geologist. The boundary of Unit 1 was adjusted to remove the incised draws and inner gorges associated with the deep-seated slide. Also, areas along the main scarp of Ennis Creek that have shown signs of past instability and sediment delivery have been excluded from the proposal.

As part of the proposal, lead-end suspension will be required where cable operations are used in an effort to minimize soil disturbance. Roads have been located on relatively flat ground, well back from the topographic breaks into stream drainages. Ditch water is to be diverted onto stable locations on the forest floor, and the installation of sufficient cross drains will maintain natural drainage patterns. Harvest systems were designed to reduce soil erosion on steeper slopes. Please see B.1.h. below for details.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Approx. acreage new roads: 1.45*
Approx. acreage new landings: 1.3**
Fill source: Native material, Microsite Pit, stockpile on PA-F-1000, salvage of rock from PA-F-1140, PA-F-1141 and PA-F-1143, or commercial sources.

* Acreage of new road is based on a 15-foot subgrade width.
** Acreage of new landings is based on 7 constructed landings with 50-foot radius.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

A small amount of surface erosion incidental to freshly exposed soils is anticipated.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 0.02 percent of the site will be covered with additional road running surface as defined by compacted surfacing. This is based on newly constructed roads and landings only.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

(Include protection measures for minimizing compaction or rutting.)

Seasonal restrictions will apply to new road construction, road reconstruction, pre-haul maintenance, road abandonment, pit expansion, rock haul and harvest operations. The following seasonal and daily restrictions apply:

The following restrictions will apply: no rock haul, road construction, reconstruction, abandonment, pre/post-haul maintenance or ground yarding from November 1 - April 30 without written permission from the contract administrator. Only hand falling will be allowed during the restriction period.

Additionally, reconstruction and new road construction will be restricted during periods of heavy rain fall when rutting and surface erosion is occurring. Roads will be constructed with properly located ditches, ditch outs and cross drains to divert water onto stable forest floor and/or into stable natural drainages. Harvest operations shall be suspended during periods of wet weather or wet soil conditions when rutting of skid roads is occurring. Ground based operations will be suspended during periods of wet weather or wet soil conditions when rutting of skid or shovel roads begins. One end suspension will be required for cable settings to minimize soil disturbance. Additional guidelines for soil protection will include: proper distribution of surface runoff during construction; managed usage of roads to minimize erosion and sediment delivery; pullback of any landing debris on or near the tops of the steep slopes; and timber is to be felled and yarded away from riparian management zones. Waterbars will be installed on skid trails and logging spurs as necessary to control erosion.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Insignificant amounts of engine exhaust from logging equipment and dust from passage of log trucks, pit stripping and rock crushing. Logging slash, if burned, will adhere to the State's smoke management plan.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

During dry weather dust abatement may be necessary on the lower portion of the PA-F-1000 road next to neighboring residences.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

a) Downstream water bodies:

Unit 1: One Type 2 stream, one Type 3 stream, 3 Type 5 streams.

Unit 2: One Type 4 stream, one Type 5 stream.

Unit 3: One Type 4 stream, 2 Type 5 streams.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Non fish bearing , seasonal stream	5 (Ns)	6	N/A
Non fish bearing, perennial stream	4 (Np)	1	100
Fish stream	3 (F)	1	156
Fish stream	2 (F)	1	156

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

Unit 1: Ennis Creek, a Type 2 stream, and an associated Type 3 tributary are located along the west boundary and are protected with a 156-foot site index riparian management zone (RMZ) and unstable slopes buffer. Two Type 5 streams associated with the above-mentioned Type 3 are protected with an unstable soils buffer while flowing in an incised draw and a 30-foot no equipment zone above the incised draw. A Type 5 tributary to Ennis Creek, located in the northwest central area of the unit is protected with a 30-foot no equipment zone. A wind buffer assessment was made for Ennis Creek. Local wind patterns in the area indicate that a wind buffer is not needed along the 156-foot site index RMZ.

Units 2: There are no known typed waters within the unit. There is a Type 5 stream located along the southwest boundary of the unit. Because this stream is used as a water source for a nearby residence, it was bounded out of the proposal to protect water quality. This stream becomes a Type 4 and will be crossed by a new road assessing the northwest portion of the unit. A temporary culvert will be installed where this stream crosses the PA-F-1142 and be removed at the end of timber haul.

Unit 3: A Type 4 stream flowing along the west boundary of the unit is protected with a 100-foot RMZ. The associated Type 5 is protected with a 30-foot no equipment zone. A short Type 5 tributary is protected within the RMZ.

None of the trees within any RMZ or unstable slopes buffer will be harvested.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Harvest operations will occur within 200 feet of all waters described above. No harvest will occur within RMZs. Timber will be prohibited from being felled into, across, or yarded through any streams. New road construction will cross a Type 4 stream before entering Unit 2 and will require a temporary culvert installation.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Approximately 30 cubic yards of backfill will be needed during culvert installation. The culvert and fill will be removed at the end of timber haul and stream side-slopes re-established.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☐*No* ☒*Yes, description:*

A Type 4 stream will be diverted during culvert installation at the discression of the state according to WAC 222-24-040 *3(g). All effort will be made to perform necessary stream work in the dry season.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

It is possible that surface erosion is occurring in areas described in Part B.1.d.2. Based on the sale design, off-site movement of sediment should be minimal. Surface erosion control/prevention measures discussed in B.1.h. would minimize or prevent delivery to surface waters.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*

There are some channels in the WAU which show evidence of accelerated aggradations due to a combination of factors including surface erosion, slides and increased peak flows. These changes are attributed to both natural events and human activity and occur throughout the reach of some streams in the WAU.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?
☐*No* ☒*Yes, explain:*

A small increase in surface runoff is anticipated and could occur for a few years following harvest. Runoff is expected to return to pre-harvest conditions relative to this proposal within 25 years. Stream and water quality after timber harvesting should not be materially affected due to the protective measures taken in sale design and compliance. The sale has been designed to reduce the risk that harvest activity would initiate a mass wasting event.

10) What are the approximate road miles per square mile in the WAU and sub-basin(s)?

The G.I.S. database shows that the Port Angeles WAU averages 4.1 miles per square mile on DNR land, and Morse Creek WAU averages 5.3 miles per square mile on DNR land. No information is currently available for the sub-basin.

Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☐*No* ☒*Yes, describe:*

There are likely cases where this has occurred elsewhere in the WAU. It has not been observed on or near the proposal.

11) Is the proposal within a significant rain-on-snow (ROS) zone? If not, ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐*No* ☒*Yes, approximate percent of WAU in significant ROS zone.*

Sixty-six percent of the WAU is within the significant ROS zone. Unit 2 has 0.5 acres within the significant ROS zone of the Morse Creek WAU (sub-basin #1). Unit 3 has 14.3 acres within the significant ROS zone of Morse Creek WAU (sub-basin #2).

Approximate percent of sub-basin(s): Sub-basin #1 has 14.38 percent within the significant ROS zone. Sub-basin #2 has 6.48 percent within the significant ROS zone.

12) If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?

Data is unavailable for hydrologically mature stands on all ownerships. On DNR lands, the percentage of sub-basin #1 within the significant ROS that is hydrologically mature is 81.54 percent, and in sub-basin #2 it is 81.08 percent.

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

There have been increases in peak flows associated with small drainage basins that contain a high percentage of young (less than 25 years old) timber or pasture that have created channel scouring. Specific instances of this occurring were not identified directly adjacent to the proposed timber sale units.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

A small increase in peak flow is anticipated as a result of this proposal. Negative impacts are not anticipated based on the following: the size of the harvest area in relation to the acreage contained within the WAU and sub-basin; the ability of the proposed harvest area (and surrounding forestland) to regain hydrologic maturity through time; and the buffering effects of riparian and wetland management zones. All current and future activities will be conducted according to the State's HCP, and are expected to mitigate for any potential adverse cumulative effects.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☐*No* ☒*Yes, possible impacts:*

There is a potential for some increase in water yield downstream of the proposal. No negative impacts are anticipated.

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

Road network planning and road design have been performed in order to minimize the amount of road construction needed, and to ensure the quality of existing and newly constructed roads. G.I.S. landscape reports were checked to evaluate the location of this proposal relative to the rain-on-snow zone mapping units. Protection measures as noted in B.1.d.5. will help to minimize impacts on soils and streams due to possible peak flow/flooding. Prompt reforestation will initiate a move towards the recovery of hydrologic maturity.

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Does not apply.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☐*No* ☒*Yes, describe:*

There is one known private water source on the Type 5 stream west of Unit 2

a) Note protection measures, if any.

The Type 5 was bounded out of the proposal as a protection measure to maintain water quality.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water will be collected by ditches, ditchouts, and cross drains and diverted to stable forest floor material.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

a) Note protection measures, if any.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, B-3-b-3-a, and B-3-c-2-a.)

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree:☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☒other: bitter cherry, willow
☒evergreen tree: ☒*Douglas fir,* ☒*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,*
☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,*
☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* Oregon grape,
☐grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☐skunk cabbage, ☒devil's club, ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☒other types of vegetation: swordfern
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

1) Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")

Unit 1 is bounded on the west by a mixed conifer/hardwood stand that is 55 years old. To the north and northeast is a 46-year old conifer stand, to the southeast a 30-year old conifer stand, and to the south a 57-year old conifer stand.

Unit 2 is bounded on the northwest and south by 12-year old conifer plantations, on the north and east by 20 to 30-year old privately owned conifer and one private residence, and on the west by a 90-year old conifer stand.

Unit 3 is bounded on the south by private conifer 15 to 20 years old. To the west is a 81-year old stand of conifer, to the east a 136-year old stand of conifer and to the north a 12-year old conifer plantation.

Unless otherwise noted, all the stands are composed of Douglas fir with minor species of western hemlock, red cedar, grand fir and red alder.

2) Retention tree plan:

At least 8 trees per acre will be left in all units.
Unit 1 will have 227 individual leave trees marked and left by the sale purchaser. Minimum requirements will be 100 conifer greater than 12 inches diameter breast height (dbh), 100 conifer greater than 15 inches dhb, and 27 conifer greater than 18 inches dbh. Leave trees should be scattered throughout the stand with no more than 400 feet between any two trees.
Units 2 and 3 have 858 individual leave trees banded with blue paint. Individual marked leave trees were selected to represent the dominant size and crown class, or to capture unique structure. An effort was made to identify and mark all wind firm and remnant fire-scarred trees. Remnant Douglas fir and red cedar were also selected for future legacy trees. These developing legacy trees will help to provide future multi-layered canopies and general habitat diversity. They will also help to reduce the visual impact from regeneration harvests. Snags that can be safely left standing will remain. All ages of down cedar will be left. In addition, all trees less than 6 inches dbh will be left in a visual buffer along the south boundary of Unit 3.

c. List threatened or endangered *plant* species known to be on or near the site.

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
None Found in Database Search				

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

All regeneration units will be replanted with mixed conifer starting the first planting season after sale expiration. The replanting rate will vary between units with an average of 375 trees per acre.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon,* ☒other: pileated woodpecker
mammals: ☒deer, ☒bear, ☐elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☐trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

TSU Number	FMU_ID	Common Name	Federal Listing Status	WA State Listing Status
1	68681	SPOTTED OWL: Site:1083-ENNIS CREEK	THREATENED	ENDANGERED
2	68682	SPOTTED OWL: Site:51-MORSE CREEK	THREATENED	ENDANGERED
2	68682	SPOTTED OWL: Site:141-LAKE CREEK – MORSE CREEK	THREATENED	ENDANGERED
2	68682	SPOTTED OWL: Site:1083-ENNIS CREEK	THREATENED	ENDANGERED
3	22873	SPOTTED OWL: Site:51-MORSE CREEK	THREATENED	ENDANGERED
3	22873	SPOTTED OWL: Site:141-LAKE	THREATENED	ENDANGERED

		CREEK – MORSE CREEK		
3	22873	SPOTTED OWL: Site:1083-ENNIS CREEK	THREATENED	ENDANGERED

The data above was auto-populated by DNR's Planning and Tracking system. Units 1, 2, and 3 are located along the outer edges of owl management areas and have been determined to be non-habitat. . Pileated woodpeckers were observed near Unit 3, but nest trees were not found inside the unit.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

Numerous species of birds migrate through the North Olympic Peninsula, however the proposal area is not used by migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

Dispersed and clumped leave trees will provide some structures for many wildlife species to use. The new open cover type created by the harvest will enhance foraging opportunities for some wildlife species. The HCP riparian strategy will provide older forest conditions across the landscape over time.

The proposed harvest area was evaluated for its potential as spotted owl and murrelet habitat according to DNR's HCP agreement. None of the units are located within owl or marbled murrelet habitat.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.

Species/Habitat: marbled murrelet — Protection Measures: Bound out reclassified habitat northeast of Unit 1 and east of Unit 3 as it is not available for harvest.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Does not apply.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

1) Describe special emergency services that might be required.

Does not apply.

2) Proposed measures to reduce or control environmental health hazards, if any:

Contract language will require that preventative measures be taken to avoid on-site disposal, or spilling of hazardous materials. The reporting and cleanup of any spills of petroleum based products or other waste will also be required.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Does not apply.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Noise types will include typical logging and road construction equipment, and chainsaw noise.

3) Proposed measures to reduce or control noise impacts, if any:

Operations will be restricted on weekends and holidays in all units. These units are located near private residential housing.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

Timber production.

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

None.

e. What is the current zoning classification of the site?

Commercial forest.

f. What is the current comprehensive plan designation of the site?

Commercial forest.

g. If applicable, what is the current shoreline master program designation of the site?

Does not apply.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

None.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?
None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Proposed activities are compatible with land use designation.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

None.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?
☐ *No* ☒ *Yes, viewing location:*

Portions of this proposal may be visible to private residential homes near Units 2 and 3.

2) Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?
☐ *No* ☒ *Yes, scenic corridor name:*

Unit 2 will be partially visible from Mt Pleasant Road, a county road. Unit 3 will be visible from Mt Pleasant Road and partially visible from US Highway 101, which is 5.5 miles to the north.

3) How will this proposal affect any views described in 1) or 2) above?

The majority of the sale area will be temporarily void of timber until regeneration is established.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Portions of this sale will be hidden by adjacent standing timber. Of those areas that are visible in Units 2 and 3, dispersed leave trees will help break up the outlines of the even-aged harvest. A 50 foot buffer of six inch dbh and smaller trees will be left along the south boundary of Unit 3. Prompt reforestation will limit the length of time the harvest area will be visible.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Does not apply.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Does not apply.

c. What existing off-site sources of light or glare may affect your proposal?

Does not apply.

d. Proposed measures to reduce or control light and glare impacts, if any:

Does not apply.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

On-site and nearby informal recreational opportunities include hiking, bird watching, and hunting. Motorcyclists, mountain bike riders and horseback riders use the logging roads and 'unsanctioned' trails in the area.

b. Would the proposed project displace any existing recreational uses? If so, describe:

Yes, the proposal would temporarily displace some on-site recreational activity. The area will not be available to recreational use during harvest activities.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

No measures will be taken since impacts are will be minimal. New roads to be constructed as part of this proposal will be used for informal recreation, such as hiking and horseback riding.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

None.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

Does not apply.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Unit 1 will be serviced via Monroe and Baker Farm Roads. Unit 2 and 3 will be serviced via Mt Pleasant Road. Access to these roads will by via State and private forest roads.

1) Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?

No.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

Does not apply.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Does not apply.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

All work is on public roads unless otherwise noted. See A.11.c for additional road work.

37,565 feet of pre/post-haul maintenance (approximately 2,977 feet of maintenance is on private roads). Maintenance includes reshaping the roadway surface with a grader and cleaning ditches, removing all woody debris and slash from

ditchlines and ditchouts and repairing or replacing any gates, fences, utilities or drainage structures damaged during the course of the sale.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

The roads for this proposal have been planned as part of a larger transportation network to serve future management needs in the area. Such planning will provide for efficient use of the road system and eliminate unnecessary road construction.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

A minor number of trips will be generated in association with normal land management activity.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Does not apply.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

Does not apply.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Does not apply.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: Gary McLaughlin – Port Angeles Unit Forester Date: Dec 12, 2008
Title

Gary McLaughlin